Depressive Symptoms are Associated with Poor Adherence to Some Lifestyle but not Medication Recommendations to Prevent Cardiovascular Disease: National Health and Nutrition Examination Survey (NHANES) 2005-2010

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Depression has been linked to poor medical adherence; however, most studies have involved persons with preexisting conditions, such as cardiovascular disease (CVD). Our aim was to examine relationships between depressive symptoms and adherence to medication and lifestyle recommendations intended to prevent CVD in a community sample. We selected adults ≥18 years (53%-56% female, 47%-52% non-white) with a history of hypertension and/or hypercholesterolemia, but free of CVD, who participated in 2005-2010 waves of NHANES – a survey of a large probability sample representative of the U.S. population. The Patient Health Questionnaire-9 (PHQ-9) was used to assess depressive symptoms (converted to z-scores). The NHANES Blood Pressure and Cholesterol questionnaire was used to assess self-reported adherence to five medication and lifestyle recommendations: take antihypertensive medication (N=3313), take lipid-lowering medication (N=2266), control/lose weight (N=2177), eat fewer high fat/cholesterol foods (N=2924), and increase physical activity (N=2540). Logistic regression models (adjusting for age, sex, race-ethnicity, education, body mass, diabetes, smoking status, daily alcohol intake and NHANES sample design) revealed that a 1-SD increase in PHQ-9 total score was associated with a 14% lower likelihood of adherence to the control/lose weight recommendation (OR=0.86, 95% CI: 0.75-0.98, p=.02) and a 25% lower likelihood of adherence to the increase physical activity recommendation (OR=0.75, 95% CI: 0.65-0.86, p<.001). PHQ-9 total score was not associated with the likelihood of adherence to antihypertensive medication (OR, 0.93, 95% CI: 0.82-1.05, p=0.21), lipid-lowering medication (OR=0.99, 95% CI: 0.86-1.14, p=0.90), or eat fewer high fat/cholesterol foods recommendations (OR=0.94, 95% CI: 0.82-1.08, p=0.40). Adherence rates for depressed verses nondepressed adults to the control/lose weight recommendation were 75% and 85% and the increase physical activity recommendation were 63% and 79%, respectively. Our findings suggest that poor adherence to weight and activity recommendations, but not medication and diet recommendations, may partially explain the excess CVD risk of depressed persons.

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